



CP-2500

SERVICE MANUAL



o u t l i n e

The Muzak CP-2500 device utilizes compact cassettes to broadcast foreground music with 25W power output. It uses a single cassette transport for high efficiency and can broadcast continuously for many hours.

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specifications

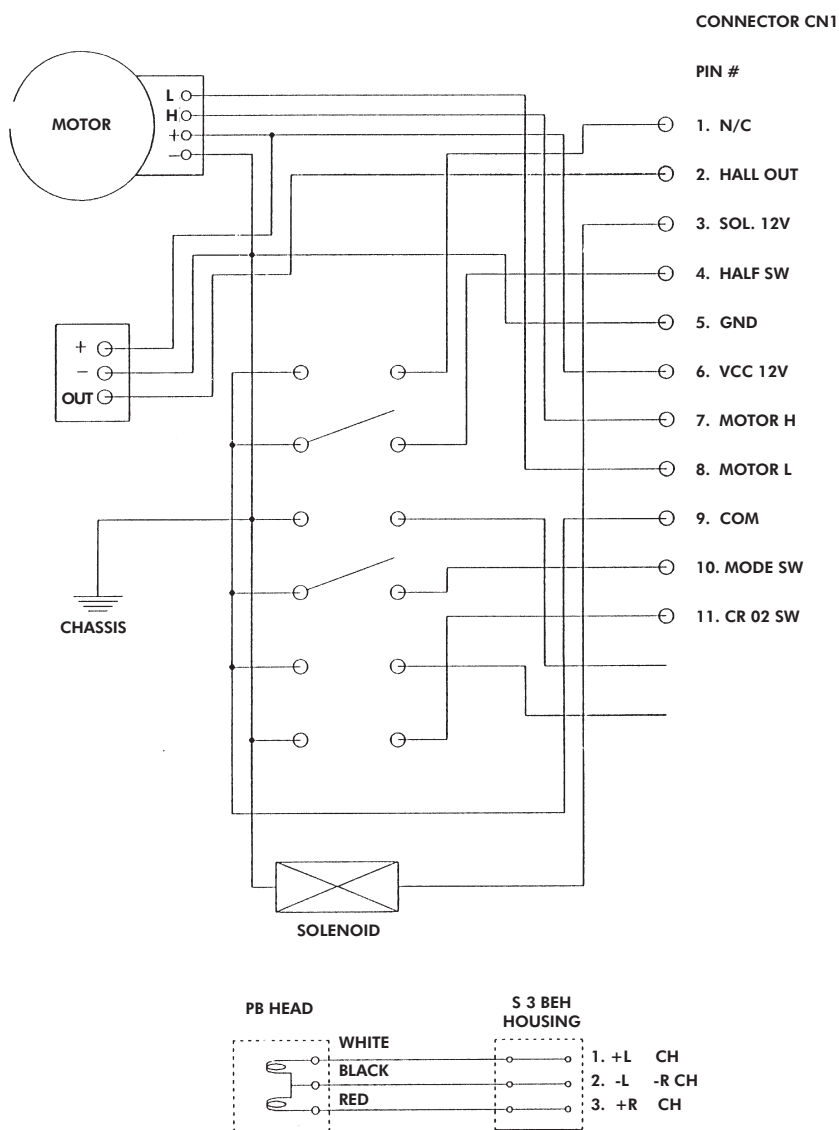
POWER SOURCE:	120 V AC 60 Hz
POWER CONSUMPTION:	50 W at rated output
OUTPUT POWER:	25 W at 4 Ω and 70.7 V unbalanced
LINE OUTPUT:	0 dBV (1 volt) \pm 2 dB (at 1KHz, 160 nWb)
DISTORTION:	<1.5% (at 1 kHz)
SIGNAL/NOISE RATIO:	>50 dB (at 1 kHz, ref.250nWb, DNR on)
CROSSTALK:	>40 dB (at 1 kHz, BPF)
FREQUENCY RESPONSE:	50 Hz \sim 12 kHz (0+5dB/0-8dB, each track)
TAPE:	C-60 or C-90 normal position
TAPE SPEED:	3.57 cm/sec., < \pm 1%
TRACK CONFIGURATION:	4-track mono, auto reverse
WOW & FLUTTER:	<0.25% (JIS WTD)
REWIND TIME:	<120 seconds
PLAYBACK HEAD:	4-track/2-channel
MOTOR:	DC. motor
TAPE RUN	Auto-reverse (25Hz detector)
NOISE REDUCTION:	Dynamic Noise Reduction (DNR)
TONE CONTROLS:	Bass: > +/- 8 dB Trebel: > +/- 8 dB
FINISH:	Front panel: plastic mold
DIMENSIONS:	9.5"W x 12.6D x 4.3H (240W x 320D x 110H mm)
WEIGHT:	12.1 lb. (5.5 kg)
SHIPPING WEIGHT:	5.5 kg
TEMPERATURE:	0 \sim 45 degrees C (32-113 degrees F)
HUMIDITY:	0 \sim 95% (no condensation)
PARTS INCLUDED:	Nothing
SAFETY STANDARDS:	UL, C_UL, FCC-B

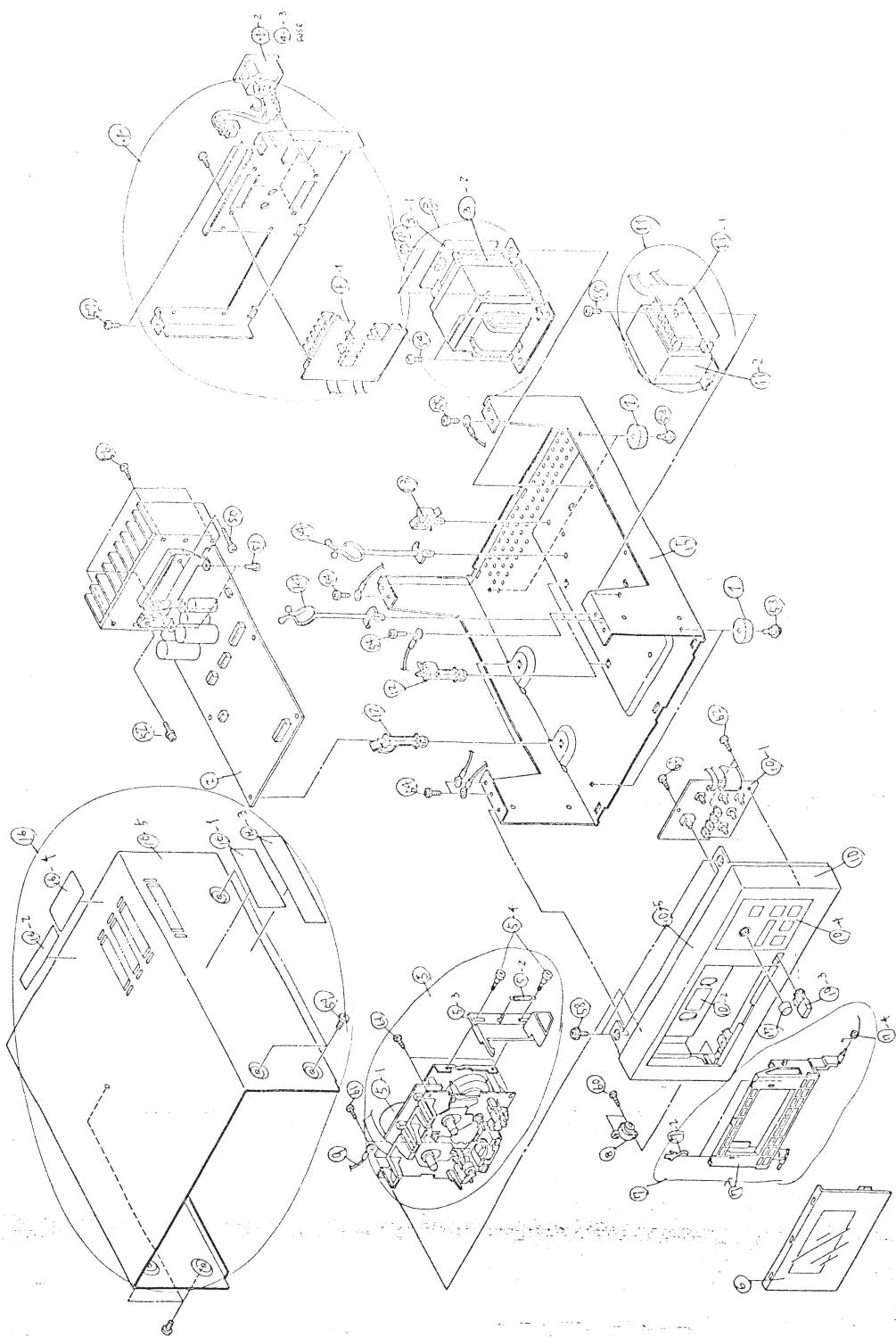
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- FRONT PANEL FEATURES:**
- Damped cassette door with eject button
 - LED program indicator (both as power indicator)
 - Program change button
 - Transport function buttons (Play, Rewind and Stop)
 - Power button
- BACK PANEL FEATURES:**
- 5P-screw terminal (2P-line out, 3P-remote Start-Stop)
 - 4P-screw terminal for power output
 - Tone control volumes (bass & treble)
 - AC INLET with fuse holder
 - Heat sink

transport mechanism block diagrams

CIRCUIT CRF4150 (PB DECK)





CD-2500

cp 2500 transport replacement procedure

IMPORTANT NOTES

The CP-2500 transport mechanism is field replaceable to save time and money on loaners and return trips.

Accurate azimuth and speed adjustments require special test tapes(see page 8) and a multi-meter with a frequency counter function.

The CP-2500 transport mechanism is available *only* as a complete assembly (# 014-4203-00). Call the Technical Service Department at 800 331.3140 for the current price.

TRANSPORT REMOVAL

1. Remove six phillips head top cover screws (reference #59).
2. Remove top cover.
3. Carefully remove three conductor head connector from transport (directly below motor) using long nose pliers.
4. Remove transport ribbon cable from the connector CN1 (Mecha Unit).

NOTES ON RIBBON CABLE CONNECTORS:

- a. The tinned, male ends of the ribbon cables insert directly into spring-loaded female connectors CN1, CN2, CN102, CN103, and CN104.
 - b. To remove the tinned end of the ribbon cable, you must first press down on the spring-loaded connector with a small flat-blade screwdriver or other small tool. This action releases the ribbon cable. Continue pressing on the female connector while pulling up on the ribbon cable. You may have to start at one end of the connector and work toward the other end.
 - c. Failure to release the spring loaded-female connector may cause damage to the ribbon cable or printed circuit board (PCB).
5. Remove two transport ground wire screws (reference #54).
 6. Remove two front panel retaining screws (reference #58).
 7. Tilt top of front panel forward and lift front panel away from chassis. If retaining tabs on bottom of chassis

do not lift free, gently push the clips up while lifting front panel. Be careful not to pull on any other cables.

8. Remove four transport mounting screws (reference #61) including screw with the transport ground wire (reference #9).
9. Remove transport from front panel stand-offs.
10. Remove eject lever screws and spring (reference #5-2 & #5-4).
11. Remove eject lever (reference #5-3) so it can be installed on the new transport.

TRANSPORT REPLACEMENT

1. Install eject lever and spring on the new transport (reference #5-2, #3 & #4).
2. Place new transport on the front panel stand-offs and fasten with 4 screws including screw with the ground wire (reference #9).
NOTES: The eject lever mounting screw holes are not pre-threaded. Be sure to hold the screws straight when taping the holes. DO NOT OVER-TIGHTEN THE ABOVE MOUNTING SCREWS.
3. Place retaining clips in the slots in the bottom of the chassis and tilt front panel up into place.
4. Fasten front panel with retaining screws (reference #58).
5. Re-connect ground wires to chassis (reference #54).
6. Re-connect ribbon cable to connector CN1 on the main PCB. White tracer wire goes to pin 1 of the connector.
7. Re-connect three conductor head wiring harness.
8. Perform the adjustments indicated on the next page before re-fitting top cover.

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PLAY MODE AZIMUTH AND SPEED ADJUSTMENTS

NOTE: Accurate azimuth and speed adjustments require special test tapes (see below) and a multi-meter with a frequency counter function. Coarse adjustments may be made by ear with a music tape if no test tapes and counter are available. The CP-2500 plays at 3/4 of the standard 1 7/8 ips cassette speed, so frequencies on the test tapes must be multiplied by 0.75.

1. Connect deck line output or speaker output to multi-meter. Set multi-meter voltage to the appropriate range.
2. Insert azimuth test tape or music tape and press **play**.
3. Adjust the left azimuth screw under the head for the forward direction and the right azimuth screw for the reverse direction.
4. Set the azimuth screws for a voltage peak or maximum high frequency music output.
5. Apply a drop of glue to each screw after adjusting.
6. Insert the speed test tape or music tape and press **play**.
7. Set VR1 on the main PCB to 2250 Hz, +/- 10 Hz (.75 x 3 kHz). Set to 2363 Hz if using a 3150 Hz test tape.
8. Play deck for several minutes and check speed again.

* **NOTE:** Reasonably priced test tapes are available from your local factory authorized Sony service and parts center or from the Sony Central Parts Department in Kansas City, MO. Tel: **800 282.2848** Call the Muzak Technical Service Department at **800 331.3340** if you have difficulty ordering these tapes.

Sony # 7-819-016-11 (P-4-A100, 10 kHz tone for azimuth and EQ)

Sony #7-819-033-11 (WS48-B, 3 kHz tone for W/F and speed)

service parts list

REF. #	PART NAME	PART #	UNIT
1	Rubber Foot.....	004-3001-01	4
53	Shoulder Screw Pan Head S Tight M3X8.....	859-0336-00	4
2	MAIN PCB UNIT.....	010-7060-00	1
51	Pan Head With Spring Washer Screw M3X6.....	852-0901-37	3
52	Pan Head With Washer Screw M3X12.....	852-0901-39	1
50	Screw Bind B Tight M3X12.....	859-0351-00	2
3	Power Trans (S) Assembly.....		
3-1	Power Trans PCB Unit.....	010-8961-00	1
3-2	Power Trans.....	013-4985-00	1
WF-201,			
WF-202	Power Amp Fuse, 6.3A.....	013-5585-00	2
11	Output Trans (S) Assembly.....		
11-1	Output Trans PCB Unit.....	010-8962-00	1
11-2	Output Trans.....	013-4117-00	1
4	Rear Panel Assembly.....	011-0080-00	1
4-1	Rear PCB Unit.....	010-8960-00	1
4-2	AC Inlet Assembly.....	011-3222-00	1
4-3	Fuse 250V 1.6A.....	013-5517-00	1
5	Mecha Unit.....	010-5016-00	1
5-1	Cassette Mechanism.....	014-4203-00	1
5-2	Eject Arm Returning Spring.....	015-0219-00	1
5-3	Eject Arm.....	016-8406-02	1
5-4	Screw.....	859-0408-00	2
61	Bind B tight M2.6x6.....	850-0101-26	4
10	Front Face Assembly.....	011-2061-00	1
10-1	Front PCB Unit.....	010-8959-00	1
10-5	Front Face.....	016-2057-00	1
10-2	Tape Check Window.....	016-7013-00	1
10-3	Eject Button.....	016-7811-00	1
10-4	Front Sheet.....	017-0503-00	1
62	Bind B tight M2. 6x6.....	850-0101-26	3
7	Housing Assembly.....	011-3224-00	1
7-2	Cassette Spring.....	015-0021-00	2
7-3	Cassette Spring.....	016-8404-00	1
7-4	Eject Screw.....	015-0335-00	1
8	Oil Damper.....	014-4834-00	1
9	Harness Earth Wire 80L.....	909-4000-40	1
60	Bind B tight M2x8.....	850-0101-18	2

REF. #	PARTS NAME	PART #	UNIT
12	PC Support.....	014-3112-00	4
13	Wire Saddle.....	014-9008-00	1
14	Cable Clip.....	014-9009-00	2
15	Main Chassis.....	016-0127-00	1
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54	Bind S tight M3x6.....	850-0201-37	10
55	Bind S tight M4x6.....	850-0201-49	3
56	Bind B tight M3x10 with Knock.....	859-0322-00	4
57	Bind S tight M3x6 Knock.....	859-0167-00	2
58	Bind F M3x5.....	859-0343-00	2
6	Cassette Door Assembly.....	011-3223-00	1
16	Top Cover Assembly.....	011-3225-00	1
16-1	Caution Label.....	007-0216-02	1
16-2	Rain Label.....	007-0237-01	1
16-3	CSA Warning Label.....	007-0247-02	1
16-4	Fuse Label 2.....	007-0298-00	1
16-5	Bonnet.....	016-0216-00	1
17	Volume Knob.....	016-7812-00	1
59	Bind Small Black M4x6 Knock.....	859-0175-01	6
	Cleaning Kit.....	007-1701-00	1
	Attachment Assembly.....	011-8049-00	1
	Fuse 250V 1.6A.....	013-5517-00	1
	AC Cord.....	013-3079-00	1
	Patch Cord.....	013-3115-00	1
	Muzak Cleaning Liquid Label.....	017-0273-00	1
	Muzak Warranty Card.....	017-0307-10	1
	Case.....	601-0117-00	1
	Cushion L.....	602-0053-00	1
	Cushion R.....	602-0054-00	1
	Master Carton.....	602-0029-00	1
	Wrap Label.....	609-0028-00	1



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